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[11]

Claims

1. A hydromechanical drive device of a strip-filter mechanisms for generation of feed movements of strip-like filter material of the strip-filter mechanism as a function of the pressure prevailing in fluid to be filtered, having
 - a hydraulic accumulator (29) with a movable separating element (31) separating a first (33) and a second (35) accumulator space to which separating element (31) there may be applied on its side adjoining the first accumulator space (33) the pressure of the fluid to be filtered prevailing in such accumulator space (33)
 - a mechanism (15, 17) converting the movement of the separating element (31) to a feed movement, and
 - a pressure control mechanism (47, 49, 51) for generation in the second accumulator space (35), as a function of the level of the pressure and/or extent of fouling of the fluid to be filtered, a pressure lower than such pressure which effects movement of the separating element (31).
2. The drive device as claimed in claim 1, wherein the pressure control mechanism has two fluid connections (47 and 49) provided at the second accumulator space (35) of the hydraulic accumulator (29) by way of the first connection (47) of which pressure may be generated in this accumulator space (35) which is lower than the pressure in the first accumulator space (33) and by way of the second connection (49) of which there may be generated in the second accumulator space (35) the pressure also prevailing in the first accumulator space (33), and wherein the pressure control mechanism has a control valve (51) which may be actuated by the movement of the separating element (31), in order to free the first connection

AMENDED SHEET

(47) when the separating element (31) is in one end position and to close the second connection (49) and the free the second connection (49) and close the first connection when the separating element is in the other end position.

3. The drive device as claimed in claim 2, wherein the second fluid connection (49) and the first accumulator space (33) of the hydraulic accumulator (29) are connected to the fluid to be filtered.
4. The drive device as claimed in claim 2 or 3, wherein the first fluid connection (47) is connected to a pressure control valve (69) which may be adjusted to a pressure value which is lower than the pressure of the fluid to be filtered present at the second fluid connection (49).
5. The drive device as claimed in claim 2 or 3, wherein the first fluid connection (47) is connected to the fluid (9) filtered through the strip-like filter material, which fluid (9) is under a pressure lower than the pressure of the fluid to be filtered.
6. The drive device as claimed in one of claims 2 to 5, wherein the control valve (51) is connected to the movable separating element (31) by way of a kinetic mechanism (53, 55) effecting reversal of the control valve (51) only when the separating element (31) is in one of the end positions.
7. The drive device as claimed in claim 6, wherein an above-center tilting mechanism (53, 55) for essentially instantaneous opening and closing of the respective fluid connections (47, 49) is provided as kinematic mechanism.

8. The drive device as claimed in one of claims 2 to 71, wherein the separating element (31) is pretensioned by means of a spring mechanism (45) in its end position corresponding to the open position of the first fluid connection (47) and to the closed position of the second fluid connection (49).
9. The drive device as claimed in claim 8, wherein the movable separating element (31) of the hydraulic accumulator (29) is connected to an actuating rod (17) movable back and forth in the longitudinal direction by the movement of such hydraulic accumulator (29), an actuating rod (17) which is part of the mechanism which converts the movement of the separating element (31) to the feed movement of the filter material.
10. The drive device as claimed in claim 9, characterized by a ratchet drive (15) having a ratchet wheel (23) which may be driven in only one direction of rotation by the reciprocating movement of the actuating rod (17), which ratchet wheel (23) is connected to a winding shaft (13) for driving a roll (11) of the strip-like filter material.
11. The drive device as claimed in claim 10, wherein the mechanism generating the feed movement of the strip-like filter material is mounted on a rocker (71) which is pivot-mounted for displacement of the axis of rotation of the winding shaft (13) permitting adaptation to different roll diameters of the strip-like filter material.
12. The drive device as claimed in one of claims 1 to 11, wherein the hydraulic accumulator (29) is mounted in the or on the space (3) containing the fluid to be filtered of the respective strip-filter mechanism and its first accumulator space (33) has a port (41) permitting entry of the fluid to be filtered.

13. The drive device as claimed in claims 7 and 12, wherein the separating element (31) of the hydraulic accumulator is coupled to a control component (57) of the tilting mechanism (53,55) actuating the control valve (51).
14. The drive device as claimed in one of claims 1 to 13, wherein a diaphragm accumulator (29) is provided as hydraulic accumulator.
15. The drive device as claimed in claims 13 and 14, wherein a pressure plate (37) resting against the diaphragm (31) of the diaphragm accumulator (20) is provided, such pressure plate (37) being coupled to the control component (57) of the tilting mechanism (53, 55).
16. The drive device as claimed in claim 15, wherein the tilting mechanism (53, 55) and the control valve (51) are mounted in the second accumulator space (35) of the diaphragm accumulator (29).